

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of )  
NEUSS )  
Serial Number to be assigned ) Attention:  
International App. PCT/EP00/04658 ) PCT OFFICE  
For: RADIALLY EXPANDABLE ) DO/EO  
VESSEL SUPPORT )

Honorable Assistant Commissioner  
for Patents  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Prior to an examination on the merits, please amend the above identified application as follows:

**IN THE CLAIMS:**

Please cancel claims 1-24 and add new claims 25-44 as follows:

25. A radially expandable intraluminal vascular support comprises a plurality of coupled flexible zigzag formed annular elements ordered vertically along a longitudinal axis, the zigzag formed annular elements define a proximal end and a distal end of the intraluminal vascular support,

Wherein each zigzag annular element is coupled to at least one other annular element through at least one bending element, which is formed from an opposing pair of equivalent opening bow shaped connector bars, a pair of S-shaped connector bars, or H-shaped connector bars on the circumference of the zigzag annular elements.

26. A radially expandable intraluminal vascular support of claim 25, wherein the width of the bow shaped connector bars, or the S-shaped connector bars, is 10 to 50%, preferably 30%, smaller than the width of a strait formed connector bar of the zigzag formed annular elements.

27. A radially expandable intraluminal vascular support of claim 25, wherein the zigzag formed annular elements are fitted with round bows, or C-shaped bows, or with hairpin shaped bows, or with bracket shaped bows.

28. A radially expandable intraluminal vascular support of claim 27, wherein the width of the zigzag formed annular elements in the area of the bows, the C-shaped bows, the hairpin shaped bows, or the bracket shaped bows, is equivalent to or smaller than the width in the area of the strait formed connector bar.

29. A radially expandable intraluminal vascular support of claim 26 , wherein the width and/or the cross-section of the strait formed connector bar and/or the bow shaped connector bars, the S-shaped connector bars, or the H-shaped connector bars is greater on the proximal and distal ends of the intraluminal vascular support than in the middle section of the support.

30. A radially expandable intraluminal vascular support of claim 28, wherein the width and/or the cross-section of the strait formed connector bar and/or the bow shaped connector bars, the S-shaped connector bars, or the H-shaped connector bars is greater on the proximal and distal ends of the intraluminal vascular support than in the middle section of the support.

31. A radially expandable intraluminal vascular support of claim 29, wherein the width and/or the cross-section of the strait formed connector bar, and/or the bending elements, or the number of the bow shaped connector bars in the middle section is greater than that on the proximal and distal ends, which gives the middle section of the intraluminal vascular support a greater radial strength than the proximal and distal ends.

32. A radially expandable intraluminal vascular support of claim 30, wherein the width and/or the cross-section of the strait formed connector bar, and/or the bending elements, or the number of the bow shaped connector bars in the middle section is greater than that on the proximal and distal ends, which gives the middle section of the intraluminal vascular support a greater radial strength than the proximal and distal ends.

33. A radially expandable intraluminal vascular support of claim 25, wherein said at least one bending element, constructed from the bow shaped connector bars, S-shaped connector bars, or H-shaped connector bars, are ordered between the laterally following zigzag annular elements in a sloping, sequential spiral pattern so that the bow shaped connector bars, or the S-shaped connector bars, or the H-shaped connector bars, give rise to a double helix structure over the length of the intraluminal vascular support.

34. A radially expandable intraluminal support of claim 25, wherein the bending elements, constructed from the bow shaped connector bars, S-shaped connector bars, or H-formed connector bars, are ordered between the laterally following zigzag annular elements such that each is turned approximately 90° with respect to the longitudinal axis of the intraluminal vascular support.

35. A radially expandable intraluminal vascular support of claim 25, wherein in the middle section the bending elements, each constructed from two circumferentially placed bow shaped connector bars, or S-shaped connector bars, are ordered in a sloping, sequential pattern, and that on both ends a single bending element, which is constructed from two opposing H-shaped connector bars that are turned 90°, is placed between the middle section and the laterally following zigzag annular elements or the laterally followed spiral formed annular elements.

36. A radially expandable intraluminal vascular support of claim 25 is constructed from one or more of the metals of the group nickel, steel, titanium, tantalum, niobium, platinum, iron or tungsten, or an alloy of at least two of these metals.

37. A radially expandable intraluminal vascular support of claim 36 is constructed from alloy of nickel-titanium so that the support is self-expanding after heat treatment.

38. A radially expandable intraluminal vascular support of claim 25 is constructed from a resorbable synthetic material.

39. A radially expandable intraluminal vascular support of claim 25 is coated or covered with a thin walled foil of a biocompatible material.

40. A radially expandable intraluminal vascular support of claim 25 is coated with medication so as to hinder the hyper proliferation of the vascular wall.

41. A radially expandable intraluminal vascular support of claim 40, wherein the medication coating is so constructed that the medication is slowly released in order to hinder the hyper proliferation of the vascular wall.

42. A radially expandable intraluminal vascular support of claim 39, wherein the coating or cover releases radiation either through radioactive decay or irradiation.

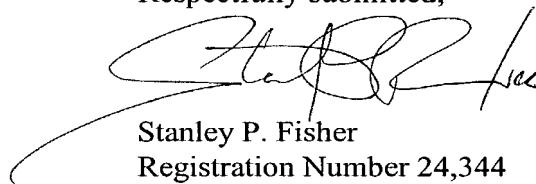
43. A radially expandable intraluminal vascular support of claim 40, wherein the coating or cover releases radiation either through radioactive decay or irradiation.

44. A radially expandable intraluminal vascular support of claim 39, wherein the biocompatible material is a biocompatible fabric constructed from one or more polyurethane, silicone, Teflon, or polyester.

## REMARKS

Claims 1-24 are being cancelled claims 1-24 without prejudice and without disclaimer, and new claims 25-44 are being added corresponding to the embodiments disclosed in the priority document DE Pat. App. 199 36 483.4 filed on August 3, 1999. Applicant submits that the detailed amendments are fully supported by the specification and no new matter has been added to the application by the present Amendment.

Respectfully submitted,



Stanley P. Fisher  
Registration Number 24,344

JUAN CARLOS A. MARQUEZ  
Registration No. 34,072

**REED SMITH HAZEL & THOMAS LLP**  
3110 Fairview Park Drive, Suite 1400  
Falls Church, Virginia 22042  
(703) 641-4200

April 3, 2001

SPF/JCM/JT